

## CLIMBING PLANTS OF OHIO.

ALICE DUFOUR.

Climbing plants comprise all those which ascend by means of support. There are two classes—the twiners which coil spirally around a support and the climbers proper which cling to a support by means of tendrils, leaf-stalks, rootlets, re-curved bristles or other devices. In all these plants, the lowest internodes are erect, beyond which the peculiar characteristic manifests itself by the movement of the free end towards the support. If the support is a wall, the climber usually sends out roots or tendrils bearing disks which adhere to the surface. If the support is other than a flat surface, the climber usually raises itself by tendrils. These tendrils often have the form of a reversed spiral, which mechanism permits the plant to be swayed back and forth by the wind without injury.

When the plant is a twiner, it assumes a somewhat horizontal position after the first node and the extremity begins to revolve to the right or to the left. *Solanum* revolves in either direction; *Humulus*, *Lonicera* and *Polygonum*, to the right; *Phaseolus* and *Convolvulus* to the left. These revolutions are often accomplished within two hours.

The structure of the stem of the twiners differs from that of the climbers and of erect plants in order to meet the strains of tension and of pressure caused by the growth of the support of the perennials. Hollow stems are rare; the pith is usually much reduced, or the central tissues surrounded by firmer tissue which protects from pressure.

It will be noticed that all plants having annual stems climb thin supports, thus getting up to the light rapidly as the energy must be used in the growth of stem and leaves rather than in forming large circles.

The provision for exposure to light is further shown in leaf-arrangement. Leaves of plants covering flat surfaces are usually spread out parallel so as to expose as much surface as possible, and in cases of unsymmetrical leaves, the lacking portion would have been covered by those overlapping. In some, there is an arrangement of large and small leaves—two rows of small ones growing in the gaps between the two rows of large ones. In others, exposure is obtained by different lengths of petioles.

At present Dr. Kellerman's catalogues show 77 climbing plants for Ohio. Of these, 25 are woody, 52 herbaceous; 51 perennial, 1 biennial, 25 annual; 43 twiners, 34 climbers of which 24 have tendrils, 3 rootlets, 3 re-curved bristles, 3 irritable petioles; 10 are parasitic with minute suckers; 60 are native, 17 are introduced. These plants are:

*Smilax* herbacea, an herbaceous climber by means of tendrils, annual above ground.

*Smilax* rotundifolia,

*hispida*,

*glauc*a, woody climbers by means of tendrils.

*Dioscorea* villosa, herbaceous twiner, perennial.

*Humulus* lupulus, herbaceous twiner, perennial, from Europe.

*Polygonum* convolvulus, herbaceous twiner, annual, from Europe and Asia.

*cilinode*,

*scandens*,

*dumetorum*, herbaceous twiners, perennial.

*Clematis* virginiana,

*viorna*, herbaceous climbers by means of petioles, perennial.

*Menispermum* canadense, woody twiner.

*Adlumia* fungosa, herbaceous climber by means of petioles, biennial.

*Rosa* setigera, woody climber by means of recurved prickles.

- Lathyrus venosus*,  
    *ochroleucus*, herbaceous, perennial, with tendrils.  
*Phaseolus polystachys*, herbaceous twiner, perennial.  
*Dolichos lablab*, annual twiner from India.  
*Vicia cracca*,  
    *americana*,  
    *caroliniana*, herbaceous perennials climbing by tendrils.  
    *sativa*,  
    *angustifolia*, annuals climbing by tendrils, from Europe.  
*Falcata comosa*,  
    *pitcheri*, herbaceous twiners, perennial.  
*Apios apios*, herbaceous twiner, perennial.  
*Strophostyles helvoa*, herbaceous twiner, annual.  
*Rhus radicans*, woody climber by means of rootlets.  
*Celastrus scandens*, woody twiner.  
*Cardiospermum halicacabum*, herbaceous climber by tendrils, annual, from  
    tropical America.  
*Vitis labrusca*,  
    *aestivalis*,  
    *bicolor*,  
    *vulpina*,  
    *cordifolia*, woody climbers by tendrils.  
*Ampelopsis cordata*, woody climber by tendrils.  
*Parthenocissus quinquefolia*, woody climber by tendrils and roots.  
    *laciniata*, woody climber by tendrils.  
*Ampelanus albidus*, herbaceous twiner, perennial.  
*Cynanchium nigrum*, herbaceous twiner, perennial.  
*Vincetoxicum gonocarpus*, herbaceous twiner, perennial.  
*Quamoclit quamoclit*,  
    *coccinea*, herbaceous twiners, annual, from tropical America.  
*Ipomoea pandurata*, herbaceous twiner, perennial.  
    *lacunosa*, herbaceous twiner, annual.  
    *purpurea*,  
    *hederacea*, herbaceous twiners, annual, from tropical America.  
*Convolvulus sepium*,  
    *repens*,  
    *japonicus*, herbaceous twiners, perennial, two native and one  
        from Japan.  
*Cuscuta epilinum*,  
    *epithymum*,  
    *arvensis*,  
    *polygonorum*,  
    *indecora*,  
    *coryli*,  
    *cephalanthi*,  
    *gronovis*,

- Cuscuta compacta*,  
    *paradoxa*, herbaceous twiners, annual, the first and second from  
    Europe, the others native.
- Solanum dulcamara*, herbaceous twiner, perennial, from Europe and Asia.
- Lycium vulgare*, woody climber by means of recurved bristles.
- Bignonia crucigera*, woody climber by tendrils.
- Tecoma radicans*, woody climber by roots.
- Galium asprellum*, herbaceous annual climbing by recurved bristles.
- Lonicera caprifolium*,  
    *hirsuta*,  
    *glaucescens*,  
    *dioica*,  
    *sullivantii*,  
    *sempervirens*,  
    *japonica*, woody twiners, the first from Europe, the last from Asia,  
    the rest native.
- Micranthelmis lobata*, herbaceous climber by tendrils, annual.
- Sicyos angulatus*, herbaceous climber by tendrils, annual.
- Cucurbita pepo ovifera*, herbaceous climber by tendrils, annual, from tropical  
    America.
- Passiflora lutea*, herbaceous climber by tendrils, perennial.
- New York City.

#### DONATIONS TO THE O. S. U. MUSEUMS.

Supt. Thos. Bonser, Carey, Ohio, has sent 256 plants to the State Herbarium during the past month.

Mrs. Theano W. Case has donated 110 specimens of flowering plants.

Rev. H. Herzer, Marietta, Ohio, contributed 175 specimens to the State Herbarium.

Arnold Arboretum, Boston, Mass., sent 24 packets of seeds of rare shrubs and trees for planting.

E. B. Williamson, Bluffton, Ind., 12 specimens of four species of Odonata. Cotypes of *Gomphus hybridus*, recently described as new by Mr. Williamson, were included.

A fine male specimen of the fur-seal has been donated, and will be mounted for the zoological museum.